Acc. Nr. AP0034102 Abstracting Service: CHEMICAL ABST. 4-70 Ref. Code UR0078

5

71194p Thermal stability and solubility of $Al_2(SiF_6)_3.3H_2O$. Semenova, R. B.; Dmitrevskii, G. E. (USSR). *Zh. Neorg. Khim.* 1970, 15(1), 57–8 (Russ). Soly. of $Al_2(SiF_6)_3.3H_2O$ (I), in H_2SiF_6 decreases with increasing concn. of acid in soln. and with increasing temp. At 25°, soly. of I in water is 30.48g /l. Thermal stability of I was investigated at 100–900°. I is stable up to 350°, at 380° it loses water. Formed $Al_2(SiF_6)_3$ undergoes a series of transitions at 560–730°. At higher temps., decompn. products are AlF_3, Al_2F_4O, SiO_2, and $Al_4Si_4F_{10}O_9$. HMJR

1/ 18

REEL/FRAME

19710745

USSR

UDC 669.295.015.3:543.42

DOTSENKO, S. N., POPLAVSKAYA, K. A., SEMENOVA, G. N., and KHUDYAKOVA, T. N.

"Spectrographic Testing of Impurities in Pigmented, Modified Titanium Dioxide"

Moscow, Metallurgiya i Khimiya Titana (Institut Titana), Metallurgiya Publishing House, Vol 6, 1970, pp 165-169

Translation: A method is developed for spectrographic testing of silicon, aluminum, zirconium, and iron in pigmented titanium dioxide modified by the "wet method." The spectra were photographed using an ISP-28 quartz spectrograph of average dispersion. The possibility of using production calibrating devices made of pigmented titanium dioxide, on the surface of which supplements of aluminum, silicon, and zirconium have been applied by the "wet method," and artificial calibrating devices in a spark and arc state is studied. The results received provide evidence that the spark state gives better reproducibility of results and two-fold less error in analysis than the arc state. The method ensures testing from 0.0076 to 0.018% Fe, 0.67-1.57% Al. 0.28-0.54% Si, and 0.30-1.52% (by mass) Zr. Four illustrations, three tables, and 19 bibliographic entries.
1/1

S

USSR UDC 617-001.34-057-07:617.7-07

SEMENOVA, G. S., MANCHAK, L. V., SUZALO, A. F., and SHEVCHENKO, S. M., L'vov Medical Institute

"Condition of the Eyes in Rotary Machine Tool Operators Suffering From Vibration Sickness"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 2, 1970, pp 47-48

Abstract: The eyes of 92 diamond cutters, grinders, and polishers, 20-40 years of age, and receiving treatment in the L'vov Oblast Clinical Hospital for vibration disease, were examined. Besides the symptoms characteristic of peripheral polyneuritis, most complained of constant headaches and frequent vertigo. Cerebrovascular crises were associated in all patients with a feeling of pressure in the frontal or temporal region. Ophthalmoscopy revealed in the retinal blood vessels, the extent paralleling the stage of vibration disease. There were similar vascular shifts in the conjunctiva. Petecchial hemorrhages into the conjunctiva and iris were noted in almost half the cases of angiodystonia of the retina and conjunctiva. Disturbances of the retinal circulation occurred in the first stage and intensified as the disease progressed. Most of the patients exhibited high systolic and dystolic pressures in the central artery of the retina, thus accounting for the persistent headaches and complaints of visual

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202820011-3"

USSR

SEMENOVA, G. S., et al, Gigiyena Truda i Professional'nyye Zabolevaniya, No 2, 1970, pp 47-48

disorders. Functional tests revealed in all 92 patients a concentric narrowing of the field of vision from 10-60° and a widening of the blind spot by 10-40°, depending on the stage of the disease.

2/2

USSR

UDC 678.744

SEMENOVA, L. N., and GAFUROV, B. L., Institute of Chemistry, Acad. Sc. UzSSR

"Synthesis and Investigation of Novel Ion Exchange Resins With Phosphorus Containing Ionogenic Groups"

Tashkent, Uzbekskiy Khimicheskiy Zhurnal, No 4, 1973, pp 52-54

Abstract: The phosphorylation process of the copolymer of itaconic acid with styrene was studied and water soluble polyelectrolytes were synthesized containing both the weakly and medium acidic ionogenic groups. Optimal conditions for the phosphorylation of the copolymer with phosphorus trichloride have been established. The reduced viscosity of the aqueous solution of phosphorylated copolymer expressed as a function of the concentration has the shape of a curve characteristic of the polyelectrolytes. Potentiometric titration of aqueous solutions of the copolymer shows that the synthesized copolymer has two ionogenic groups with different acidity.

1/1

USSR

UDC 546.711+632.9

BADALOVA, E. K., SEMENOVA, L. N., SAIBOVA, M. T., Chemistry Institute of the Uzbek SSR Academy of Sciences

"Interaction of Manganese Salts with Organophosphorus Insecticides and Fertilizers"

Tashkent, Uzbekskiy Khimicheskiy Zhurnal, No 3, 1972, pp 7-10

Abstract: The methods of differential thermal and X-ray phase analysis were used to investigate manganese compounds formed on introduction of manganese sulfate into liquid urea-formaldehyde ammonium carbonate fertilizer and for interaction of manganese nitrate with organophosphorus insecticides, anthio and rogor. The introduction of manganese sulfate into liquid-urea-formaldehyde fertilizer is inexpedient since manganese converts to the carbonate form which is not assimilated by the plants. In the presence of the organophosphorus insecticide anthio, manganese nitride is precipitated in the form of the monosulfate and in the presence of rogor it converts to the oxides.

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USSR

UDC 631.89+632

IVANOV, R. N., SEMENOVA, L. N., PAVLOVA, A. I., CHUMAKOV, F. P., Chemistry Institute of the Uzbek SSR Academy of Sciences

"Properties of Ammophos Granules with a Dalapone Shell"

Tashkent, Uzbekskiy Khimicheskiy Zhurnal No 3, 1972, pp 5-6

Abstract: An apparatus with a fluidized bed was used to obtain a combined fertilizer made of ammophos with a 0.1-0.2 mm thick shell of the herbicide, dalapone. The structural and operating characteristics of the unit with an output capacity of 1,500 kg/hour with a 1 m^2 screen are described. The hygroscopic point of the fertilizers determined by the exsiccator method [R. Ye. Pestov, et al., ZhKhP, No 12, 1951] corresponded to 59-61%. In all cases ammophos with dalapone absorbed moisture faster than pure ammaphos. The results of field testing by the Scientific Research Institute of Plant Protection demonstrate that the compound does not lower the germination of cotton seed but suppresses weeds. The cotton harvest was improved by 2-2.5 centners/hectare.

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USSR

UDC 632.95

SEMENOVA, L. N., IVANOV, R. N., CHUMAKOV, F. P., and ZAGRANICHNAYA, V. A.

"Study of the Possibility of Combining Karatau Ammophos with Insecticides"

V sb. Khimiya tekhnol. mineral'n. udobr. (The Chemistry and Technology of Chemical Fertilizers -- collection of works), Tashkent, "Fan," 1971, pp 107-109 (from RZh-Khimiya, No 13, 10 Jul 72, Abstract No 13N473 by T. A. Belyayeva)

Translation: Three component pesticide-fertilizer mixtures are obtained by "gamma" applying rogor (I) and γ-HCCH (mixture A) or rogor and chlorophos (II) (mixture B) to the surface of granulated ammophos by means of an OSKh-2 machine. There was no change in the concentration of I and γ-HCCH during storage of mixture A for two months. In mixture B II rapidly decomposes and I is slowly hydrolyzed. Addition of a 40% emulsion concentrate of I and commerical γ-HCCH improves the physicochemical and physicomechanical properties of chemical fertilizers (hygroscopicity, moisture capacity, caking capacity).

1/1

USSR

UDC 631.893.12

SEMENOVA, L. N., Chemistry Institute, Academy of Sciences, UzSSR

"Study of the Reaction of Phosphorus-Organic Insecticide (Antio) with Simple and Complex Liquid Fertilizers"

Tashkent, Uzbekskiy Khimicheskiy Zhurnal, No 2, 1970, pp 47-49

Abstract: Chemical and physico-chemical interactions taking place when the phosphorus-organic insecticide Antio [O,O-dimethyl-S-(N-methyl-N-formyl-carbamoylmethyl)-dithionphosphate] was combined with various fertilizers were investigated. It was found that mixing complex liquid fertilizers SUM-IIIZh, SUM-VZh and SUM-VZhA urea with Antio leads to a mild hydrolysis of the latter, the thione sulfur atom being split off. Because of this, it is recommended to mix this type of solutions just prior to their utilization. In respect to stability in general, Antio was found to be more stable, in SUM-VZh than an analogous insecticide -- rogor. In SUM-VZh Antio decomposes very slowly; this rate is even lower in SUM-IIIZh and in SUM-VZh+urea, while in the ammonium nitrate + urea the Antio was completely stable.

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USSR

UDC 551.463:669.018:8

KONSTANTINOVA, Ye. V., SEMENOVA, I. S., and D'YAKOV, A. A.

"The Effect of Sea Water Composition on Corrosion of Copper Alloys Used Under Desalination Conditions"

Moscow, Vodosnabzheniye i Sanitarnaya Tekhnika, No 6, 1971, pp 13-18

Abstract: Examining pipes made of different materials showed that in laboratory conditions the Black Sea water is most corrosive and the Caspian Sea water the least corrosive toward copper alloys. Stannous brass is the least corrosion-resistant material, aluminum brass being poorer than MNZh5-1 alloy, and copper-nickel -- the best material. The aggressiveness of sea water depends on the ratio of sulfate:chloride ion concentrations; the corrosive action decreases as this ratio increases. Aggressiveness also depends on the total salt content in sea water: the lower the content, the greater the corrosive action because it dissolves then more oxygen. Finally, the absolute concentration of chloride and sulfate ions has an effect: the sulfate ions inhibiting the corrosion and the chloride ions accelerating it.

1/1

USSR UDC 543.42

BRESLER, P. I., Candidate of Sciences, SEMENOVA, M. V., SHTILERMAN, G. A.

"Single-Beam Ultraviolet Gas and Liquid Analyzer"

Optiko-mekhanicheskaya Promyshlennost', No 10, 1971, pp 32-34.

ABSTRACT: A single-beam ultraviolet gas and liquid analyzer with luminescent convertor, placed in a flux of radiant energy alternately before and after the sample container is described. The results of testing of a model of the analyzer are presented. The new design significantly improves technical characteristics of the device while reducing the requirments for temperature constancy of the optical system. During a four-day test, deviation of the readings of the analyzer did not exceed ±1.5%, and indications were found to be essentially independent of surrounding temperature between 4 and 50°C.

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1/2 029 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--ELECTRONOGRAPHIC STUDY OF TRANSFORMATIONS OCCURRING ON FRICTION SURFACES OF A MOLYBDENUM DISULFIDE-STEEL SYSTEM -U-

AUTHOR-(03)-VAYNSHTEYN, V.E., SEMENOVA, M.V., SOLOVYEV, G.

COUNTRY OF INFO--USSR

SOURCE--FIZIKO KHIMICHESKAIA MEKHANIKA MATERIALOV, VOL. 6, NO. 1, 1970, P. 60-63

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--FRICTION COEFFICIENT, MOLYBDENUM OXIDE, MOLYBDENUM DISULFIDE, ALLOY DESIGNATION, ALLOY PHASE TRANSFORMATION, CHROMIUM STEEL/(U)2KH13 CHROMIUM STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/0935 STEP NO--UR/0369/70/006/001/0060/0063

CIRC ACCESSION NO--AP0116444

UNCLASSIFIED

2/2 029 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116444

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE TRANSFORMATIONS OCCURRING ON THE SURFACES OF THE MOLYBDENUM DISULFIDE-STEEL 2KH13 SYSTEM DURING FRICTION IN AIR. IT IS FOUND THAT, DEPENDING ON THE TEST CONDITIONS, MOLYBDENUM OXIDES FORM ON THE FRICTION SURFACE AND INCREASE THE FRICTION COEFFICIENT. FACILITY: NAUCHNO-ISSLEDOVATEL'SKII INSTITUT, MASHINOVEDENIIA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 576.858.095.383:576.312.31

BEREZINA, O. N., SKLYANSKAYA, Ye. I., SEMENOVA, N. P., and PETERSON, O. P., Institute of Virology imeni D. I. Ivanovskiy, USSR Academy of Medical Sciences, Moscow

"Changes in the Matrix Activity of Chromatin in Response to Viral Infection"

Moscow, Voprosy Virusologii, No 4, Jul/Aug 71, pp 397-402

Abstract: The matrix activity of DNP preparations was determined in the RNA-polymerase system in vitro. The tests were performed on 10-day old chick embryos infected with $3x10^3$ ID_{50} of A/WSN influenza virus and with $3x10^7$ ID_{50} of vaccinia virus. Control tests showed that the presence of DNA matrixes, magnesium ions, and ribonucleoside triphosphates was required for RNA synthesis. The DNP matrix activity decreased to 60% of the control level early in the course of infection with either pathogen. The development of the infection was accompanied by inhibition of the euchromatin complex in the cell genome and stimulation of the heterochromatin complex. Inhibition coincided with a decrease in the concentration of RNA and of residual proteins in the DNP preparations, while an increase in the concentration of these components coincided with stimulation of matrix activity.

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USSR

UDC 621.382.82

[illegible], [illegible] I., [illegible], V. V., [illegible], I. P., [illegible], V. V., [illegible], Yu. A., [illegible], [illegible] V.

"Integrated Circuit of a Low-Frequency Amplifier Based on MOS Transistors"

Elektron. tekhnika. Nauch.-tekhn. sb. Mikroelektronika (Electronic Technology. Scientific and Technical Collection. Microelectronics), 1971, vyp. 1(27), pp 14-[illegible] (from RZh-Radiotekhnika, No 8, Aug 71, Abstract No [illegible])

Translation: The paper describes integrated amplifiers with high input impedance which can be realized on the basis of MOS transistors which ensure high input impedance, temperature stability of high input impedance, high packing density and low power consumption. Resumé.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202820011-3"

USSR

UDC 621.396.6-181.5

GORYUSHKIN, M. I., KRYLOVA, I. A., PETIN, Yu. A., SEMENOVA, N. V., USTILKO, V. Ye.

"Combining MOS and Bipolar Transistors in Integrated Circuits"

Elektron. tekhnika. Nauch.-tekhn. sb. Mikroelektronika (Electronic Technology. Scientific and Technical Collection. Microelectronics), 1971, vyp. 1(27), pp 33-38 (from RZh-Radiotekhnika, No 8, Aug 71, Abstract No 8V246)

Translation: The authors consider the possibilities of developing combination integrated elements based on MOS and bipolar transistors. Circuit characteristics may be appreciably improved by combining these devices in integrated circuits. The special technological characteristics of making integrated circuits combining MOS and bipolar transistors are described, and it is shown that the processes of making them are compatible. The characteristics of P-channel MOS and NPN bipolar transistors are presented for units made under compatible conditions on N-type epitaxial films with insulating junctions. Resumé.

1/1

Hematology

USSR

UDC 615.385.1.03:616.12-008.1-78

RUDAYEV, Ya A., FEDOROVA, L. I., LIFLYANDSKIY, D. B., BATUKAYEV, A. I., and SEMENOVA, N. V., Central Institute of Hematology and Blood Transfusion, Ministry of Public Health USSR, and Institute of Cardiovascular Surgery imeni Bakuleva, Academy of Medical Sciences USSR, Moscow

"Thawed Erythrocytes as A New Charge for Artificial Circulation Equipment"

Moscow, Problemy Gematologii i Perelivaniya Krovi, Vol 15, No 7, Jul 70, pp 3-5

Abstract: Whole donor blood has been used in equipment for artificial circulation, but substantial difficulties are encountered when such blood must be ready for administration at a given moment. To study the overall perfusion of thawed and washed erythrocytes in open-heart surgery, 250 ml of thawed erythrocytes was introduced with small doses of whole blood. It was found that satisfactory blood levels could be maintained. The hemoglobin content in the peripheral blood was 8%, and the number of thrombocytes was reduced. The erythrocytes, which had been preserved for long periods of time, appeared to be resistant to all traumas during perfusion. No operative hemolysis was observed. Further study of this highly effective medium (erythrocytes diluted in a low-molecular-weight medium) is recommended.

1/1

1/2 025 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--NATURE OF THE RADIATION OF METAL VAPORS IN A HOT, HOLLOW CATHODE DISCHARGE -U-

AUTHOR-(02)-SUKHANOVA, G.B., SEMENOVA, O.P.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., FIZ. 1970, 13(2), 99-102

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--METAL VAPOR, CATHODE, SPARK DISCHARGE, ALUMINUM, CALCIUM, SILVER, SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1400 STEP NO--UR/0139/70/013/002/0099/0102

CIRC ACCESSION NO--AT0120193

UNCLASSIFIED

2/2 025 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AT0120193

ABSTRACT/EXTRACT--(U) GP-0- DISHCARGE IN A HOT, HOLLOW CATHODE IN PRESENCE OF AL, CA, AG, AS WELL AS ADDNL. DATA ON EMISSION OF CU VAPOR ARE PRESENTED. IN COMPARING D.C. ARC DISCHARGE SPECTRUM WITH A SPARK DISCHARGE IN AIR, IT IS SEEN THAT SPECTRA OF AL AND CA BASICALLY ARE OF AN ARC TYPE. HOWEVER, A DISCHARGE SPECTRUM WITH AL VAPORS PRESENTS A GROUP OF ION LINES AL II WITH AN EXCITATION ENERGY OF 16.5-17.9 EV, AND CONTAIN IN A DISCHARGE SPECTRUM WITH CA VAPORS ION LINES CA III, WHICH WERE NOT OBSD. IN AN ARC DISCHARGE. THE STUDIED RESONANT CHARACTER OF IONIZATION PROVES THAT THE VAPOR SPECTRA OF CA, AL, AND FE IN A DISCHARGE IN A HOT, HOLLOW CATHODE IS OF AN ARC DISCHARGE TYPE.

SIB. FIZ. TEKH. INST. IM. KUZNETSOVA, TOMSK, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202820011-3"

Acc. Nr. AP0050713 Abstracting Service: CHEMICAL ABST. 5/70 Ref. Code: 4R0368

94392r Intake and radiation of atoms in a discharge with a hot hollow cathode. Gorbunova, T. M.; Semenova, O. P. (USSR). *Zh. Prikl. Spektrosk.* 1970, 12(1), 17-20 (Russ). Intake of atoms into the excitation zone during a discharge in a hot hollow cathode changes with increased c.d. and with resultant rising temp. of the cathode. When the temp. is too low for evapn. or sublimation of a compd. which is introduced into the hollow cathode, the intake is controlled by cathode sputtering. Expts. with Fe and He reveal that atom-atom collisions in a hot-hollow-cathode discharge affect the distribution of energy levels of the investigated species. The distance between energy levels having Boltzmann distribution of population increases with increasing temp. of the investigated gas. HMJR

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21

REEL/FRAME 19810711

USSR

UDC 632.951.911.2

SEMENOVA, S. A., and SIFOROVA, T. A., All Union Scientific Research Institute of Chemical Plant Protective Agents

"Stability of Rigor, Phythios, and Anthio Residues as a Function of Storage Conditions"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 9, No 4 (90), 1971, pp 18-19

Abstract: Data are reported on the stability of rogor, phythios, and anthio residues on glass at room temperature, at 55-58°C. After 50-day storage at room temperature all materials became about half as toxic as they were originally. In the following 40 days the toxicity of rogor and anthio decreased by a factor of 8-9, and that of phythios by a factor of 2. Storage at 55-58°C resulted in a rapid loss of toxicity of all compounds; already after 4 hrs it became one half that of the original toxicity. The agent most stable to heating appeared to be the phythios.

1/1

USSR

SEMENOVA, S. A., SIFOROVA, T. A., and NIKOLAYEVA, T. A., VNIIKhSZR

"Dynamics of the Elimination of Residual Systemic Acaricides from Leaf Surfaces"

Moscow, Khimiya v Selskom Khozyaystve, No 2, 1971, pp 24-27

Abstract: Toxic residues of the acaricides remaining for a long time on leaf surfaces are of definite danger to field workers and to bees and various insects which destroy or parasitize mites and other pests. Laboratory and field tests were run on the following systemic acaricides to determine the dynamics of their elimination from leaf surfaces: phosphamide, phythios, antio, vamidotion andmethylmercaptophos. These were found to disappear from leaves in the following order: methylmercaptophos = vamidotion, phythios, phosphamide, antio. The latter three, since they disappear more slowly than the others, represent the greater danger to field workers and to valuable insect life.

1/1

1/2 012 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--DURATION OF THE PROTECTIVE ACTION OF ACARICIDES ON COTTON -U-

AUTHOR--SEMENOVA, S.A.

COUNTRY OF INFO--USSR

SOURCE--KHIM. SEL. KHOZ. 1970, 8(2), 112-13

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ORGANIC PHOSPHOROUS INSECTICIDE, TICK/(U)ROGOR INSECTICIDE, (U)FITIOS INSECTICIDE, (U)EKATIN INSECTICIDE, (U)ANTHIO INSECTICIDE, (U)METHYL MERCAPTOPHOS INSECTICIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0333 STEP NO--UR/0394/70/008/002/0112/0113

CIRC ACCESSION NO--AP0113259

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0113259

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KILVAL (I), ROGOR, FITIOS, EKATIN, ANTHIO, AND METHYL MERCAPTOPHOS USED IN 0.05-0.2PERCENT AQ. SOLNS. WERE FULLY EFFECTIVE AGAINST COTTON TICKS FOR 2 DAYS AND THEIR EFFECTIVENESS DECREASED TO SIMILAR TO 50PERCENT AFTER 20 DAYS FOR I, AND 10 DAYS FOR THE OTHERS. FACILITY: VSES. NAUCH.-ISSLED. INST. KHIM. SREDSTV ZASHCH. RAST., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 632.95

SEMENOVA, S. A., SIFOROVA, T. A., GAR, K. A., MANDEL'BAUM, Ya. A., ITSKOVA, A. L., FETISOVA, V. F., NIKOLAYEVA, T. A., and SELEZNEVA, V. P.

"Acaricide"

USSR Author's Certificate No 265611, filed 3 Jul 68, published 7 Apr 72 (from Referativnyy Zhurnal -- Khimiya, Svodnyy Tom (I, L-S), No 1(II), 1973, Abstract No 1N450P by T. A. Belyayeva)

Translation: Compound of a general formula $(RO)(R'O)P(X)SCH_2CON(R'')SO_2(R''')$ (where R, R', R'', R''' = C_1 - C_4-alkyl, X = O or S) is suggested for use as acaracide. Experimental data are presented on its aqueous emulsions under laboratory conditions and the duration of its protective effect.

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1/2 008 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--REACTION OF METALLIC DERIVATIVES OF COMPOUNDS HAVING A LABILE HYDROGEN ATOM WITH ALPHA HALO KETONES. XVIII. REACTION OF

AUTHOR-(03)-TEMNIKOVA, T.I., ASTAFYEVA, A.YE., SEMENOVA, S.N.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(4), 736-9

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HALOGENATED ORGANIC COMPOUND, ORGANOSODIUM COMPOUND, ACETATE, FURAN, CARBOXYLIC ACID, BENZENE DERIVATIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1952 STEP NO--UR/0366/70/006/004/0736/0739

CIRC ACCESSION NO--AP0125541

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202820011-3"

2/2 008 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0125541

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF PHCO, CHCLPH WITH MECOCHNACO SUB2 ET GAVE PHCOCHPHCHACCO SUB2, ET, WHICH WAS CYCLIZED IN REFLUXING 20PERCENT H SUB2 SO SUB4 TO 3,CARBETHOXY, 4,5,DIPHENYL,2,METHYLFURAN (I). THE HYDROLYSIS OF I GAVE 4,5, DIPHENYL,2,METHYLFURAN,3,CARBOXYLIC ACID. ANALOGOUSLY, STARTING WITH MEC SUB6 H SUB4 COCHCLPH, 5,TOLYL ANALOG OF I AND THE CORRESPONDING ACID WERE PREPD.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--CATALYST REGENERATION -U-

AUTHOR-(04)-PRISTAVKO, YE.V., SHUTOV, YU.M., SHTEYNBERG, B.I., SEMENOVA, T.A.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,358

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYST REGENERATION, CHEMICAL PATENT, METAL OXIDE

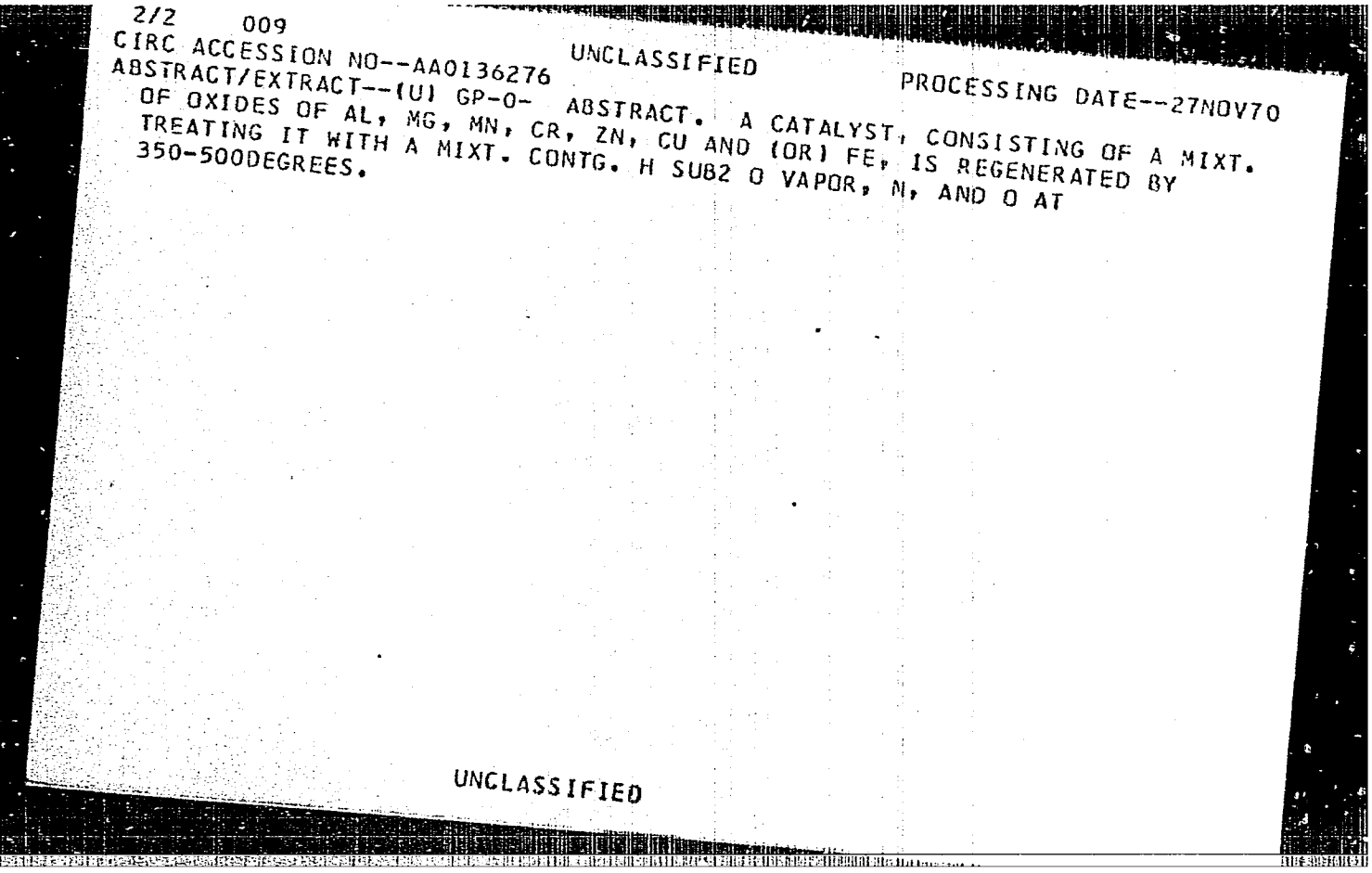
CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/0842 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0136276

UNCLASSIFIED



2/2 009 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AA0136276
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CATALYST, CONSISTING OF A MIXT. OF OXIDES OF AL, MG, MN, CR, ZN, CU AND (OR) FE, IS REGENERATED BY TREATING IT WITH A MIXT. CONTG. H SUB2 O VAPOR, N, AND O AT 350-500DEGREES.

UNCLASSIFIED

SEMENOVA, T.D.

Med Biological Problems

JPRS: 59818
14 Aug. 1973

CIRCADIAN ORGANIZATION OF SODIUM-EXCRETING FUNCTION OF THE SALIVARY GLANDS AND ITS SIGNIFICANCE FOR EVALUATION OF ADAPTATIONAL CAPABILITIES OF THE ORGANISM

[Article by T.D. Semenova (Institute of Medicobiological Problems, Ministry of Health), Moscow, Problemy Kruglosutochnoy Fiziologii Cheloveka i Zhivotnykh, Russian, 1971, pp 164-173]

The cyclic nature of biological processes is one of the basic characteristics of a living system; it is an adaptive reaction of the organism to changes in the external and internal environment fixed in phylogeny and ontogeny. The processes that take place at each of the regulation levels are characterized by their own specific periodicity which is determined by both exogenous and endogenous factors. The environment, with its physical and social time indicators, emerges as an integral synchronizer for virtually all processes in the organism. Such synchronization is manifested, in particular, in the form of daily or, as they are called, "circadian" rhythms. We all know of the daily rhythms of temperature, pulse rate, hormone activity. As shown by our investigations, the circadian rhythm of sodium excretion in saliva is also very stable. According to many authors [1-4] and our own research [5, 6], its normal organization is strictly consistent with the phases of general activity of the organism: the sleep phase and the waking phase. The typical distinction of this rhythm is a significant increase in sodium concentration during the period from 0700 to 1100 hours, which coincides with the organism's transition from passive behavior to an active state. As we know, this period is characterized, in man, by a higher level of metabolic processes, increased hormonal activity, increased tonus of the sympathetic branch of the autonomic nervous system. Several works [1, 7-9] corroborate the influence of these processes on mineral composition of saliva.

To determine the mechanisms controlling the circadian rhythm of salival sodium, we used different models of impaired vegetative and chemical homeostasis in the organism. Changes in activity of the sympathoadrenal system were induced by administration of pharmacological agents: sphinepzrine or prozerine, as well as by experimental use of measured physical loads (veinergometer).

Acc. Nr: AP0051955

Ref. Code: UR0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 3, pp 259-263

COMPARATIVE EVALUATION OF CERTAIN METHODS FOR PRIMARY SCREENING OF ANTITUMOR ANTIBIOTICS IN VITRO

S. M. Rudaya, V. A. Semenova, L. I. Osokina, S. M. Navashin

National Institute for Antibiotics, Moscow

Sensitivity levels of 3 in vitro tests (a mutant of Staphylococcus UV-3, antidehydrase activity of mouse tumor cells, cytotoxic effect in tussue culture) were studied comparatively, using 120 culture fluids of actinomycetes. The cytotoxic test was the most sensitive. The culture fluids selected according to this test in most cases inhibited at high dilutions the development of mouse experimental tumors. Antitumor activity was most often observed among actinomycetes belonging to series helvolus, chromogenes, griseus, lavendulae-roseus.

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REEL/FRAME
19820442

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Acc. Nr: AP0051935

Ref. Code: UR 0219

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i Meditsiny, 1970, Vol 69, Nr 2, pp 75-78

ORGANOSPECIFIC ANTIGENS IN THE HUMAN LUNG

G. K. Trofimov, V. A. Semenova

Kazakh Scientific Research Institute

The antigenic pattern of the normal human lung was investigated. Methods of precipitation and immunoelectrophoresis made it possible to demonstrate 4 organospecific antigens. It is shown that the lung, spleen, liver and kidney contain non-specific antigens common to each of them.

2 pc

USSR

UDC 621.383.292

AYNBUND, M.R., VIL'DGRUBE, G.S., DUNAYEVSKAYA, N.V., SEMENOVA, V.B.

"Miniature Channel Photomultipliers"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektronnoluch. i fotoelektr. pribory (Electronic Technology. Scientific-Technical Collection. Electron Beam And Photoelectric Devices), 1970, Issue 3(17), pp 3-5 (from RZh--Elektronika i yeye primeneniye, No 4, April 1971, Abstract No 4A251)

Translation: The construction is described and the principal parameters are presented of miniature channel photomultipliers with head-on and lateral photocathodes. The length of the devices is 40 mm with diameters of 13 and 10 mm, respectively. The anode sensitivity of the specimens amounts to 1000 a/lm. Summary.

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USSR

UDC 621.383.292

AYNBUND, M. R., GUSAKOVA, N. G., KOZHINSKAYA, E. V., SEMENOVA, V. B.

"Production Technology and Linearity of the Characteristics of Miniature Channel Emitters"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektronnoluch. i fotoelektr. pribory (Electronic Technology. Scientific-Technical Collection. Electron Beam and Photoelectric Devices), 1970, Issue 2(16), pp 11-15 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5A194)

Translation: The paper describes an improvement of the production technology for spiral channel emitters of lead glass. The production process consists of winding of the spirals in an electrical furnace, orientation of the spiral ends on an axial line, polishing of the ends of the capillaries, frosting, washing, annealing in hydrogen, and deposition of the conductive contacts. The technology developed makes it possible to increase the output of suitable channels with an internal diameter of 1 mm (with an amplification > 10^5) from 20 to 40 percent. The magnitudes of the channel resistances, and the permissible power dissipation are presented, and also the dependence of the output channels on the input, linear to 10^{-8} - 10^{-6} amp. 5 ill. 6 ref. N. S.
1/1

UDC: 621.371.162

USSR

SEMENOVA, V. I., Scientific Research Radio Physics Institute

"Concerning the Influence of Collisions on the Propagation of Electromagnetic Waves in a Plasma Formed by a Moving Source of Ionization"

Gor'kiy, Izvestiya VUZov: Radiofizika, Vol 15, No 12, 1972, pp 1793-1800

Abstract: The effect which collisions have on the propagation of electromagnetic waves in a plasma formed by a moving source of ionization is considered within the framework of elementary theory. Formulas are derived which characterize the attenuation of waves in the plasma behind the wave-front in different limiting cases as a function of the ratio between the Langmuir frequency of the plasma electrons and the effective frequency of collisions. The fields behind the ionization front are found in the limiting case of high velocities of the front close to the speed of light.
The author thanks A. A. Andronov and V. V. Zheleznyakov for interest in the work.

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UDC 678.84:678.643'42'5.028

USSR

KRUSTALEVA, YE. N., GOLUBKOV, G. YE., ZHINKIN, D. YA., SEMENOVA, YE. A., MARKOVA, N. V., and LUSHNIKOVA, M. N.

"A New Hardner Which Improves the Thermal Stability of Epoxy Resins"

Moscow, Plasticheskiye Massy, No 1, Jan 70, pp 12-14

Abstract: An investigation was made into the possibility of improving the physicomechanical and dielectric properties of epoxy resins in the high-temperature region by using hexamethylcyclotrisilazane $[(CH_3)_2SiNH]_3$ and polyorganosilazanes containing di- and trifunctional units of the general formula $(R_2SiNH)[R'Si(NH)_{1.5}]_n$ (R = CH_3, R' = CH_3, C_6H_5, n = 1, 3) as hardeners. Polymers based on ED-6 epoxy resin and MSN-7 resin (polymethylsilazane) were studied. The compositions were hardened at 120°C for 3 hours, and then additionally heat treated at 150-200°C for 24 hours. The resultant polymers have better thermal stability in the high temperature region than those in which endic anhydride is used as the hardner. The weight of the epoxy resin hardened by MSN-7 stabilizes after ten days at 250°C whereas the epoxy resin produced by using endic anhydride as a hardner is destroyed under the same conditions with a sharp increase in weight losses. Not only is the thermal stability of the new product improved,

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USSR

KHRUSTALEVA, YE. N., et al., Plasticheskiye Massy, No 1, Jan 70, pp 12-14

but its mechanical strength and dielectric properties as well. Of particular importance is additional heat treatment at 200°C, which increases the maximum tensile strength of the resin at 155°C from 38 kg/cm^2 (after heat treatment at 150°C) to 152 kg/cm^2, and reduces the relative longitudinal extension at fracture (155°C) from 4.5% (after heat treatment at 150°C) to 4.0%. The electrical strength of the new resin at 155°C is 9.8 x 10^{13} kW/mm as compared with 1.3 x 10^{13} kW/mm for resin hardened by endic anhydride. The corresponding figures for the dielectric dissipation factor at 50 Hz (155°C) are 0.002 and 0.085 respectively. The new resin also has a lower coefficient of linear expansion in both the vitreous and highly elastic states.

2/2

Radiobiology

UDC 547.963.3:591.044.62

USSR

PARIBOK, V. P., (Deceased), and SEMENOVA, Ye. G., Laboratory of Radiation Cytology, Institute of Cytology, Academy of Sciences USSR, Leningrad

"Unscheduled DNA Synthesis and Repair of HeLa Zh-63 Cells Sublethally Damaged by Irradiation"

Leningrad, Tsitologiya, Vol 12, No 11, Nov 70, pp 1,423-1,432

Abstract: It was determined that the dose-survival rate curve of HeLa Zh-63 cells exposed to ultraviolet light (2,537 Å) is exponential and that there is no fractionation effect. Ultraviolet irradiation stimulates the "unscheduled" synthesis of DNA in all cells not in the S-phase. The dose-survival rate curve of X-ray-irradiated HeLa Zh-63 cells synchronized in the G_1-phase is S-shaped, and there is a fractionation effect, i.e., the sublethally damaged cells are repaired. In this stage, the unscheduled synthesis of DNA after X-ray irradiation cannot be detected by autoradiography. These findings suggest that sublethally injured HeLa cells can be repaired without the presence of unscheduled DNA synthesis detectable by autoradiography. Unscheduled DNA synthesis induced by ultraviolet light in HeLa Zh-63 cells is highly radioresistant. It is not inhibited by even 100 rads of X-ray irradiation.

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UNCLASSIFIED PROCESSING DATE--11SEP70

1/2 042

TITLE--EFFECT OF SILICON DIOXIDE CONTENT ON THE PHYSICOMECHANICAL AND CATALYTIC PROPERTIES OF HYDROCRACKING CATALYSTS -U-

AUTHOR--ROGOV, S.P., PEREZHIGINA, I.YA., AGAFONOV, A.V., SEMENOVA, YE.S., LIKHOVA, Z.V.

COUNTRY OF INFO--USSR

SOURCE--KHIM. TEKHNOL. TOPL. MASEL 1970, 15(3), 8-11

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--OXIDE CATALYST, ALUMINUM OXIDE, COBALT, MOLYBDENUM, SILICON DIOXIDE, MECHANICAL STRENGTH, PETROLEUM DESULFURIZATION, ISOMERIZATION, PETROLEUM HYDROCRACKING

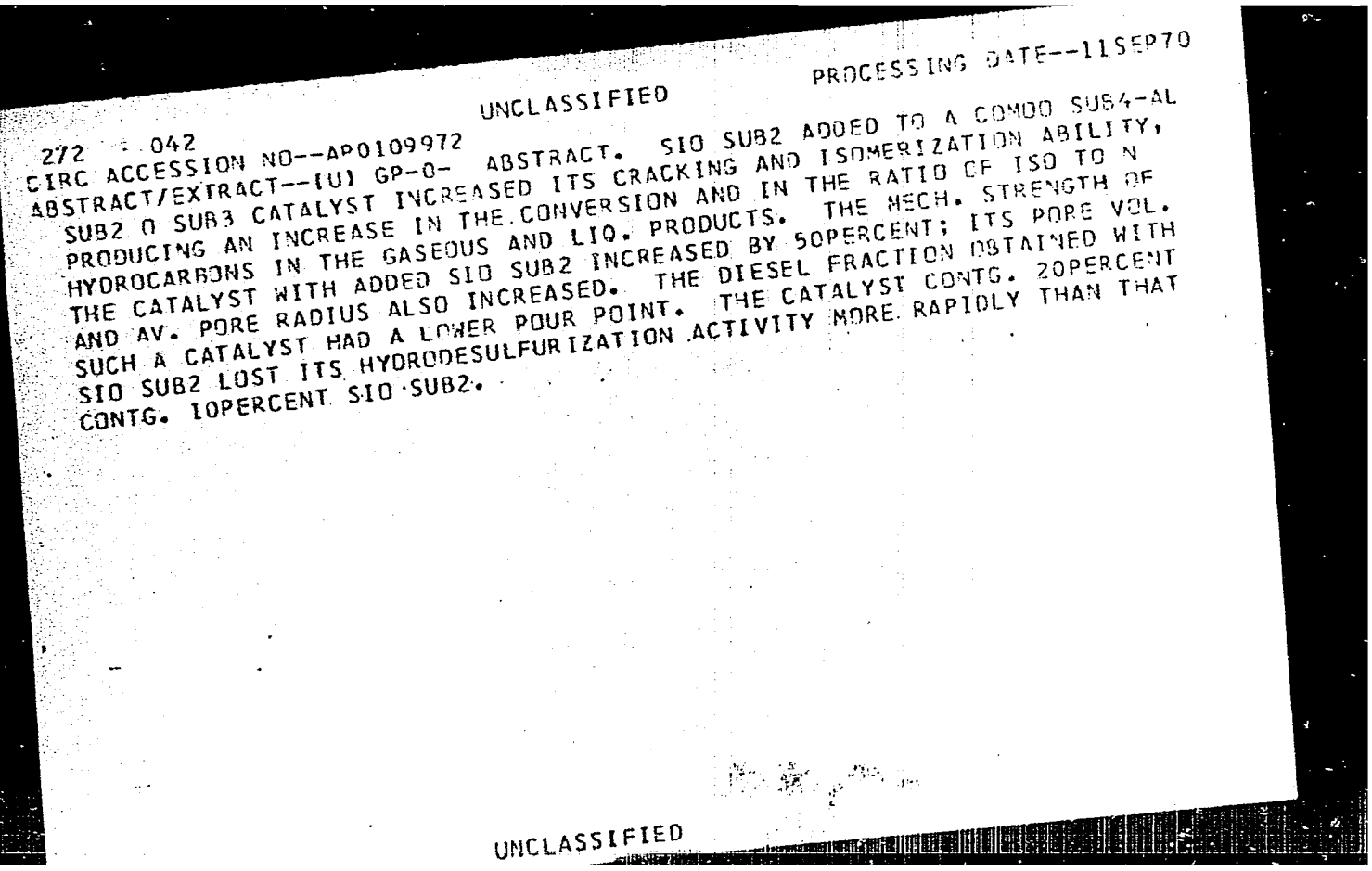
CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/2040 STEP NO--UR/0065/70/015/003/0008/0011

CIRC ACCESSION NO--AP0109972

UNCLASSIFIED



UNCLASSIFIED PROCESSING DATE--11SEP70

272 042
CIRC ACCESSION NO--AP0109972
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SIO SUB2 ADDED TO A COMOO SUB4-AL SUB2 O SUB3 CATALYST INCREASED ITS CRACKING AND ISOMERIZATION ABILITY, PRODUCING AN INCREASE IN THE CONVERSION AND IN THE RATIO OF ISO TO N HYDROCARBONS IN THE GASEOUS AND LIQ. PRODUCTS. THE MECH. STRENGTH OF THE CATALYST WITH ADDED SIO SUB2 INCREASED BY 50PERCENT; ITS PORE VOL. AND AV. PORE RADIUS ALSO INCREASED. THE DIESEL FRACTION OBTAINED WITH SUCH A CATALYST HAD A LOWER POUR POINT. THE CATALYST CONTG. 20PERCENT SIO SUB2 LOST ITS HYDRODESULFURIZATION ACTIVITY MORE RAPIDLY THAN THAT CONTG. 10PERCENT SIO SUB2.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--PHASE EQUILIBRIUMS IN A MAGNESIUM, MANGANESE, ALUMINUM AND TIN SYSTEM -U-

AUTHOR-(02)-KOPETSKIY, CH.V., SEMENOVA, YE.M.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, METAL. 1970, (1), 221-3

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--MAGNESIUM ALLOY, MANGANESE ALLOY, ALUMINUM ALLOY, TIN ALLOY, ALLOY PHASE SYSTEM, INTERMETALLIC COMPOUND, X RAY ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1981/0460 STEP NO--UR/0370/70/000/001/0221/0223

CIRC ACCESSION NO--AP0050477

UNCLASSIFIED

2/2 024 UNCLASSIFIED

CIRC ACCESSION NO--AP0050477 PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SECTIONS OF THE ISOTHERMAL TETRAHEDRA WERE PLOTTED FOR 4 COMPONENT ALLOYS AT A CONST. CONTENT OF 5 WT. PERCENT AL, 1.5 WT. PERCENT MN, AND 0.5-8 WT. PERCENT SN. THE FOLLOWING PHASES ARE IN EQUIL. WITH THE ALPHA SOLID SOLN.: MN, MG SUB2 SN, MG SUB17 AL SUB12, AND THE ZETA PHASE OF THE BINARY AL-MN SYSTEM. THE MN PHASE HAS A CUBIC LATTICE AND IS FOUND IN MN RICH ALLOYS, AS ALPHA AND BETA MODIFICATIONS, BUT AT RELATIVELY LOW AL CONTENTS. IT CONSISTS OF GRAY REGULAR CRYSTALS. THE MG SUB17 AL SUB12 PHASE HAS A CUBIC STRUCTURE, IS WHITE, WELL DIFFERENTIATED FROM THE OTHER PHASES AND IS FOUND IN THE GRAINS AND AT THE GRAIN BOUNDARIES. THE MG SUB2 SN PHASE HAS A CUBIC LATTICE AND AN ANTI ISOMORPHOUS STRUCTURE OF THE FLUORSPAR TYPE. IT BECOMES BLACK ON ETCHING. THE ZETA PHASE HAS A BODY CENTERED CUBIC LATTICE AND CONSISTS OF IRREGULAR GRAY CRYSTALS WITHIN THE GRAINS. THE 400DEGREES ISOTHERMAL SECTION AT CONST. 5PERCENT AL INTERSECTS THE 1 PHASE VOL. OF THE ALPHA SOLID SOLN. BASED ON MG AND AT 200DEGREES, IT IS SUPERSATD. WITH AL. X RAY PHASE ANAL. CONFIRMED THE PRESENCE OF THE PHASES FOUND BY MICROSTRUCTURAL ANAL. BUT DID NOT REVEAL ANY NEW PHASES.

UNCLASSIFIED

USSR

UDC: 681.332.6

GUREVICH, Kh. G., SEMENOVA, Z. A., SHVARTS, A. G.

"The 'Polimer-2' Computer and Experience in Using It in Solving Convex Programming Problems"

Analogo-vychisl. tekhnika v organizatsii proiz-va i issled. bol'shikh sistem (Analog Computers in Organization of Production and Investigation of Large Systems), Moscow, 1970, pp 89-97 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 6, Jun 70, Abstract No 6B86)

Translation: This article contains a description of a specialized semiconductor analog computer of the "Polimer-2" type which simulates a system of 10 second-order polynomials and permits statement and solution of problems of nonlinear programming with a 5 x 10 matrix. The computer, constructed from U-6 type dc amplifiers, includes a system for assigning components and nonlinear combinations of them, a system of 10 voltage generators corresponding to the physical and mathematical properties of the problem, a commutation system, a system for assigning restrictions, and a signalling system. There are seven illustrations and one table.

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1/2 033 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--DETERMINATION OF THERMODYNAMIC CHARACTERISTICS BY USING A PIEZOELECTRIC MICROWEIGHING METHOD -U-

AUTHOR-(03)-GUGLYA, V.G., IVANOV, G.A., SEMENOVA, Z.A.

COUNTRY OF INFO--USSR

SOURCE--ZAVOD. LAB. 1970, 36(3), 289-92

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--THERMODYNAMICS, QUARTZ, PIEZOELECTRIC EFFECT, FREQUENCY CHARACTERISTIC, HEAT OF VAPORIZATION, DECANE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/0099 STEP NO--UR/0032/70/036/003/0289/0292

CIRC ACCESSION NO--AP0127725

UNCLASSIFIED

2/2 033 UNCLASSIFIED

CIRC ACCESSION NO--AP0127725 PROCESSING DATE--27[illegible]

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PRINCIPLE OF A PIEZOELEC. MICROBALANCE, I.E. DETN OF THE FREQUENCY CHANGE OF THE QUARTZ PLATE CAUSED BY ITS LOAD CHANGES, WAS USED TO DET. THE HEAT OF VAPORIZATION OF OCTADECANE. THE MEASURED VALUE (21.5 KCAL) IS IN FAIR AGREEMENT WITH THE CALCD. ONE (22.03 KCAL). THE APP. AND EXPTL. PROCEDURE ARE DESCRIBED AND THE FACTORS INFLUENCING THE ACCURACY AND REPRODUCIBILITY OF THE MEASUREMENT ARE CONSIDERED.

FACILITY: MOSK. INST. STALI SPLAVOV, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 620.18:620.17:669.71'725

FRIDLYANDER, I. N., YATSENKO, K. P., NEKRASOVA, G. A., SANDLER, V. S., SEMENOVA, Z. G., and GULIN, A. N.

"Laws of Variation of the Structure and Properties of Beryllium-Aluminum Alloys"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 7, 1970, pp 50-55

Abstract: This article contains a discussion of the laws of variation of the structure and properties of beryllium-aluminum hypereutectic alloys. Various amounts of magnesium were added to the alloy to produce various changes. By generalizing the results of x-ray micrography a diagram is constructed for the decomposition of a solid solution of aluminum-beryllium alloy with 30% Be and 5% Mg. The variation in mechanical properties of the same alloy is plotted for aging at 200°C and at 250°C. The strength of aluminum-berllium alloys as a function of the distance between the B-phase particles (the distance between the beryllium particles) is also plotted for Al-Be and Al-Be-Mg. The mechanisms of all these variations in structure and properties are discussed in detail.

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Acc. Nr: AT0040572 Abstracting Service: CHEMICAL ABST. #90 Ref. Code: UR0020

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83663d Microhardness of synthetic diamond single crystals. Semenova-Tyanshanskaya, A. S. (Vses. Nauch.-Issled. Konstr.-Tekhnol. Inst. Prir. Almazov Instrum., USSR). *Dokl. Akad. Nauk SSSR* 1970, 190(2), 315–18 [Tech Phys] (Russ). The microhardness *H* was measured for 8 cubic and 6 octahedral synthetic diamonds 0.7–0.8 mm in size. The *H* ranges from 5300 to 6700 kg/mm² for the (100) faces and from 9100 to 9600 kg/mm² for the (111) faces. These values are similar to the values for natural diamonds. Polystyrene is a better agent for mounting the crystals on the microhardness app. than a 20–80 Sn–Cu alloy. Mary Frances Richardson

AD

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REEL/FRAME
19750093

1/2 038 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--DEVICE FOR STUDYING PHOTOGRAPHIC PROPERTIES OF PHOTOPOLYMERIC LAYERS -U-

AUTHOR-(05)-FRUNZE, N.K., YASHIN, V.P., BRAZHNIKOV, YE.M., RUSSIYAN, YE.K., SEMENOVAZHUKOVA, M.P.

COUNTRY OF INFO--USSR

S

SOURCE--ZH. NAUCH. PRIKL. FOTOGR. KINEMATOGR. 1970, 15(2), 143-5

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, METHODS AND EQUIPMENT

TOPIC TAGS--POLYMER, POLYPROPYLENE, PLASTIC FILM, UV RADIATION, POLYACRYLATE RESIN, ACETATE, PHOTOGRAPHIC PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1423 STEP NO--UR/0077/70/015/002/0143/0145

CIRC ACCESSION NO--AP0116870

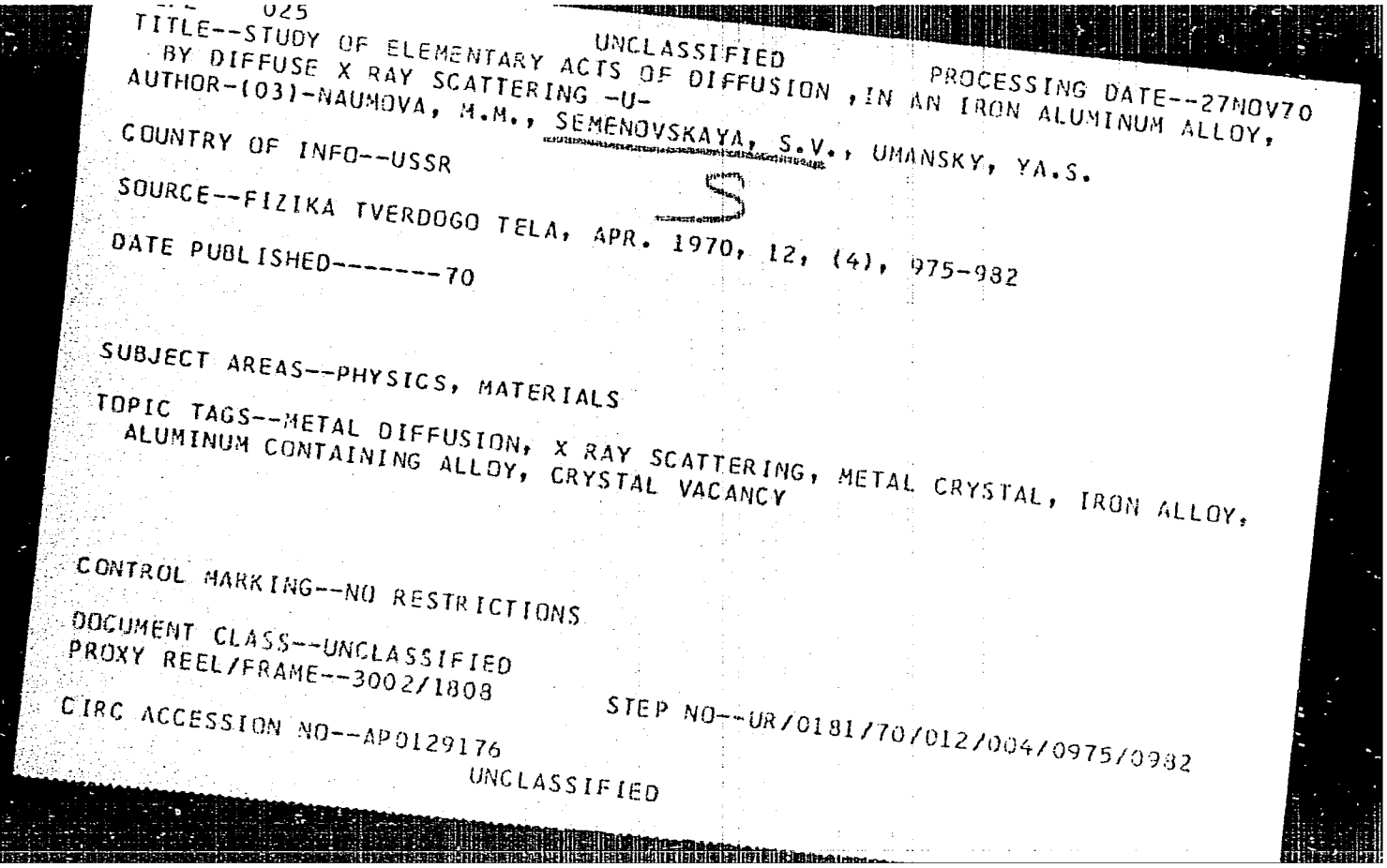
UNCLASSIFIED

2/2 038 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0116870

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN APP. WAS DESIGNED FOR DETG. THE SENSITOMETRIC CHARACTERISTICS OF PHOTOPOLYMERS. THE SAMPLE WAS PLACED BETWEEN THE BASE OF A FRAME AND AN ELASTIC TRANSPARENT FILM MADE OF POLYPROPYLENE. THE SPACE BETWEEN THE FRAME AND THE FILM WAS EVACUATED SO THAT THE FILM WAS TIGHTLY PRESSED TO THE SAMPLE AND THE SAMPLE TO THE BASE OF THE FRAME THAT WAS THERMOSTATED. A PARALLEL UV RADIATION BEAM OF DIAM. 100 MM WAS USED SO THAT 70 TIMES 70 MM SAMPLES COULD BE TESTED. POLYACRYLATES WERE EXAMD. BY COATING THEM ON A TRANSPARENT TRIACETATE SUBSTRATE TO A THICKNESS OF 50 MU. FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

UNCLASSIFIED



025 UNCLASSIFIED

TITLE--STUDY OF ELEMENTARY ACTS OF DIFFUSION ,IN AN IRON ALUMINUM ALLOY, BY DIFFUSE X RAY SCATTERING -U- PROCESSING DATE--27NOV70

AUTHOR-(03)-NAUMOVA, M.M., SEMENOVSKAYA, S.V., UMANSKY, YA.S.

COUNTRY OF INFO--USSR

SOURCE--FIZIKA TVERDOGO TELA, APR. 1970, 12, (4), 975-982

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--METAL DIFFUSION, X RAY SCATTERING, METAL CRYSTAL, IRON ALLOY, ALUMINUM CONTAINING ALLOY, CRYSTAL VACANCY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1808

STEP NO--UR/0181/70/012/004/0975/0982

CIRC ACCESSION NO--AP0129176

UNCLASSIFIED

2/2 025 UNCLASSIFIED

CIRC ACCESSION NO--AP0129176 PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INTENSITY OF DIFFUSE X RAY SCATTERING IN A DISTORTED FE, 16 AT. PERCENT. AL SINGLE CRYSTAL WAS MEASURED AT VARIOUS POINTS OF RECIPROCAL SPACE WITHIN THE LIMITS OF THE FIRST BRILLOUIN ZONE, USING MONOCHROMATIC CO,K SUBALPHA RADIATION AND IONIZATION RECORDING, AFTER QUENCHING FROM 570DEGREESC AND AGAIN AFTER TEMPERING AT 320DEGREESC FOR 2-30 H, AND THE RESULTS WERE INTERPRETED IN TERMS OF THE MECHANISMS RESPONSIBLE FOR THE ELEMENTARY ACTS OF DIFFUSION OF THE COMPONENT ATOMS IN THIS ALLOY. THE RESULTS INDICATED THAT THE VACANCY MECHANISM OF DIFFUSION WAS PREDOMINANT.

UNCLASSIFIED

USSR

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NAUMOVA, M. M.; SEMENOVSKAYA, S. V.; UMANSKIY, Ya. S. (Moscow Institute of Steels and Alloys)

"Study of Elementary Diffusion Events by a Method of Diffusion Scattering of X-Rays"

Leningrad, Solid State Physics; April, 1970; pp 975-82

ABSTRACT: The results of a study by A. G. Khachaturyan in a previous issue of the same journal (September, 1967; p 2594) were used by the authors of this article to determine the probabilities of jumps of atoms of iron in elementary diffusion events in an Fe-Al alloy with a temperature of 320°C. Measurements were made of the intensity of diffusion scattering at various points of an opposite space within the limits of the first Brillouin zone around the point (110) from a single crystal of a disordered solid solution with 16 at. % aluminum. The measurements were carried out on CoK_{α} by means of monochromatic radiation with ionization monitoring.

The intensity of the diffusion scattering was measured after thorough hardening at 570°C and also for subsequent drawings at 320°C during the course of 2, 4, 7, 12, 13, 15, 16, 26, and 30 hours.

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USSR

NAUMOVA, M. M., et al., Solid State Physics, April 1970, pp 975-82

The time for the evolution of the intensity of diffusion scattering was determined and this was used to calculate the probabilities of jumps of atoms of iron across the five shortest distances during a temperature of 320°C. The probability that an atom of iron will jump is a nonmonotonic function of the distance.

Also calculated were the coefficients of diffusion and self-diffusion of iron during a temperature of 320°C. According to the experimental data it is also possible to draw a conclusion regarding the predominance of the vacancy mechanism of diffusion in the solid solution studied.

2/2

USSR

SEMENOVSKAYA, T. D., AVGUL', V. T., and CHMUTOV, K. U., Institute of Physical Chemistry, Acad. Sc. USSR, Moscow

UDC 541.544.6

"The Rate of Diffusion of Ions in the Anion Exchange Resin VP-1A in the 20-230°C Interval"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 46, No 5, May 72, pp 1191-1195

Abstract: To determine the dependence of the ionic diffusion coefficients in an ion exchange resin on temperature, the study was carried out of the form of stationary front of the ClO_4 ions and complex zinc chloride and cadmium chloride anions on the anion exchange resin VP-1A. It has been found that increasing the temperature from 20 to 180°C increases 40 fold the rate of diffusion in the resin. The anomalous character of the diffusion rate was analyzed as a function of temperature on the basis of diffusion laws for ionic crystals. It has been shown that the VP-1A anion exchange resin could be utilized in acid medium at high temperatures.

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USSR

UDC 612.014.44:612.825.251

BOGOSLOVSKIY, A. I., ZHDANOV, V. K., KOVAL'CHUK, A. G., SEMENOVSKAYA, Ye. N. and SHAMSHINOVA, A. M., Moscow Scientific Research Institute of Eye Diseases imeni Helmholz

"Light-Induced Visual Cortical Potentials in Man"

Moscow, Doklady Akademii Nauk SSSR, Vol 201, No 3, 1971, pp 721-723

Abstract: In an investigation performed on 49 healthy men and women, evoked potentials were recorded from the visual cortex (one electrode over the area representing the macula lutea and the other electrode 3 cm higher along the median line) while the subjects looked at intermittent flashes of photopic and scotopic light. Averaged EEG records revealed the presence of evoked potentials in response to not only photopic but also scotopic stimuli, although in the latter case the evoked potentials were less numerous and had a different pattern and a longer latent period. Simultaneous auditory stimulation (800 cyc/sec, 85 db) reduced the amplitude of the potentials evoked by scotopic stimuli but did not change the potentials evoked by photopic stimuli. The exact mechanism of action and the significance of the findings remain to be elucidated.

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1/2 026 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--REDUCTION OF A HAFNIUM MOLYBDENUM HETEROPOLY ACID BY VARIOUS REDUCING AGENTS DURING THE PHOTOMETRIC DETERMINATION OF HAFNIUM -U-

AUTHOR-(04)-SHAKHOVA, Z.F., SEMENOVSKAYA, YE.N., SOKOVIKOVA, N.R., KOVALCHUK, V.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(3), 490-4

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--HAFNIUM, MOLYBDENUM, SPECTROPHOTOMETRIC ANALYSIS, METAL CHEMICAL ANALYSIS, CHEMICAL REDUCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0479

STEP NO--UR/0075/70/025/003/0490/0494

CIRC ACCESSION NO--AP0120231

UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0126231

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONDITIONS FOR THE REDN. OF HG-MO HETROPOLYACID (I) BY ASCORBIC ACID, SNCL SUB2 AND STANNOUS OXALATE, A MO(V) SALT SOLN., AND METALLIC MO WERE STUDIED SPECTROPHOTOMETRICALLY. ALL THE REDUCING AGENTS REDUCE I GIVING IDENTICAL REDN. PRODUCTS; THEIR ABSORBANCE MAX. IS AT 720-40 NM. SN (II) OXALATE IS THE BEST REDUCING AGENT. AFTER 2 HR THE REDN. IS COMPLETE. A DIRECT DEPENDANCE EXISTS BETWEEN THE ABSORBANCE AND HF CONCN. IN THE 80 MUG HG-ML RANGE, WHICH CAN BE USED FOR HF DETN. AS ITS REDUCED I COMPLEX. CONDITIONS FOR THE EXTN. OF REDUCED I WERE FOUND. BUOH, ISOAMYL ALC., MECOET, AND THEIR MIXTS. WHICH C SUB6 H SUB6 EXT. I AND ITS SALTS FROM ACIDIFIED AQ. SOLNS; ALCS, EXT. I FROM 0.7N SOLNS., BUT KETONES AND THE MIXTS. NEED MORE ACID SOLNS. A METHOD WAS SUGGESTED FOR THE DETN. OF HG IN PURE SOLNS. BY USING SN OXALATE AS REDUCING AGENT IN AN AQ. AND AN EXTN. METHOD (MOLAR ABSORPTIVITY EQUALS 6.7 TIMES 10 PRIME3 AND 7.7 TIMES 10 PRIME3, RESP.). FACILITY: MOSCOW STATE UNIV., MOSCOW, USSR.

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--13NOV70

1/2 015

TITLE--SPECTROPHOTOMETRIC STUDY OF A HAFNIUM MOLYBDENUM HETEROPOLY ACID -U-

AUTHOR-(03)-SHAKHOVA, Z.F., SEMENOVSKAYA, YE.N., SOKOVIKOVA, N.K.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(3), 485-9

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HAFNIUM COMPOUND, MOLYBDENUM COMPOUND, SPECTROPHOTOMETRIC ANALYSIS, ABSORPTION SPECTRUM, METAL COMPLEX COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED STEP NO--UR/0075/70/025/003/0485/0489

PROXY REEL/FRAME--1999/1049

CIRC ACCESSION NO--AP0123042

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0123042

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FORMATION OF HF-MO HETEROPOLY ACID (I) IN SOLN. WAS STUDIED SPECTROPHOTOMETRICALLY. I CAN BE OBTAINED BY THE INTERACTION OF AMMONIUM FLUOROHAFNATE AND AMMONIUM MOLYBDATE AND BY THE INTERACTION OF HF SULFATE AND NA MOLYBDATE. WHEN THE COMPLEX IS FORMED FROM AMMONIUM FLUOROHAFNATE OPTIMUM CONDITIONS EXIST AT A 14 FOLD EXCESS OF AMMONIUM MOLYBDATE AT PH 0.8; 0.4 ML H SUB3 BO SUB3 COMPLEXIZE F IONS. ABSORPTION SPECTRA OF COLORLESS I HAVE NO MAX ABSORBANCE AND DO NOT DIFFER FROM ACID MOLYBDATES. I IS MOST STABLE IN SMALLER THAN OR EQUAL TO 15N H SUB2 SO SUB4 AND LEAST IN LARGER THAN OR EQUAL TO 2N HCLO SUB4. DURING REDN. WITH SNCL SUB2 AND ASCORBIC ACID, BLUE PRODUCTS ARE FORMED WITH MAX. ABSORBANCE AT 800 NM. WHEN THE COMPLEX IS FORMED FROM SULFATE COMPLEXES THE OPTIMUM CONDITIONS ARE PH 1.0-1.5 AND A 200-300 FOLD EXCESS OF MOLYBDATE. ABSORPTION SPECTRA IN THE UV REGION COINCIDE WITH THOSE OF ACID MOLYBDATES WITH MAX. ABSORBANCE AT 245 NM. THESE COMPLEXES ARE REDUCED WITH ASCORBIC ACID, OXALATES AND SNCL SUB2 AS WELL AS BY METALLIC MO; REDUCED I IS WELL EXTD. BY O CONTG. EXTRANTS AND THEIR MIXTS. WITH C SUB6 H SUB6. HF REACTS WITH MO IN THE SATD. COMPLEX IN A 1:12 MOLAR RATIO.

FACILITY: MOSCOW STATE UNIV., MOSCOW, USSR.

UNCLASSIFIED

Military Medicine

USSR

SEMENTOVSKAYA, V.

"They Train Military Doctors Here"

Moscow, Meditsinskaya Gazeta, 9 May 1972, p 1

Translation: Within the walls of the Military Medical Order of Lenin Red Banner of Labor Academy imeni S. M. Kirov, future military doctors begin their road. They have someone to set an example for them and someone from whom they can learn courage, persistence and devotion to their work. The military school has graduated many scientists and teachers in the academy. This long list includes Lieutenant General of the Medical Service Professor A. Georgiyevskiy, Colonel of the Medical Service Professor V. Petrov, Major General of the Medical Service Professor Ye. Gembyulk and many others.

In the academy there is a council of veterans headed by Major General of the Medical Service in Reserve V. Ivanov. Colonel of the Medical Service in Reserve Professor A. Titov has served for many years as chairman of the Council of Creative Cooperation of the Academy and the Krasnogvardeyets Production Combine. Under the combine he organized the University of Medical and Technical Sciences.

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USSR

SEMENTOVSKAYA, V., Meditsinskaya Gazeta, 9 May 1972, p 1

Probably, many young students experienced the desire in some way to be like the deputy chief of the department in the political section, Colonel Nikolay Ivanovich Rodin. During the war years he completed 122 combat missions. His family had three funerals, but he continued to fight. The rank of Hero of the Soviet Union was conferred upon him. The same high rank was conferred on the head of the department of normal anatomy Colonel of the Medical Service Professor Ye. Dyskin. He performed a heroic feat in the fall of 1941 when, being wounded, he replaced a dead gunner at his weapon.

The military doctor needs a good scientific school. In the academy there are many different departments and clinics where famous scientists and excellent specialists are working.

For example, the scientific achievements of the collective of the department of general and military hygiene are widely known. Integral methods of determining the energy expenditures of man and monitoring the level of supplying his organism with proteins have been developed. Mathematical models of the thermal states of man have been created for various physical loads and under various climatic conditions. The most modern methods of research have been taken as tools.

USSR

SEMENTOVSKAYA, V., Meditsinskaya Gazeta, 9 May 1972, p 1

The collective of the department of ophthamology has developed a procedure for a precision operation of restoring sight to an eye which has suffered burns. The thinking of the scientists has joined the jeweler's mastery of surgery and the possibilities of modern techniques and equipment.

A scientific school of otolaringologists was created by the late professor of the Military Medical Academy imeni S. M. Kirov, V. Voyachek. His students are working at many of the medical institutions of the country. And how many students the honored scientist of the RSFSR, Lenin Prize Laureate, Major General of the Medical Service, Academician of the USSR Academy of Medical Sciences I. Kolesnikov has had! A participant in many wars, the best known surgeon, author of 140 scientific papers -- he has the department of hospital surgery. By his initiative and with his participation the division of reanimation was created at the academy. It is equipped with the latest medical equipment.

Several months ago, the staff of the academy supported the initiative of the guards motorized rifle regiment of the Baltic Military Okrug which was the initiator of the socialist competition for honorable celebration of the 50th

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USSR

SEMENTOVSKAYA, V., Meditsinskaya Gazeta, 9 May 1972, p 1

anniversary of the formation of the USSR under the motto: "Everything that the people have created, protect dependably, vigilantly, persistently!"

...Dependably, vigilantly, persistently! These words sound like a command to those who protect the homeland. To those who are always on the front line!

4/4

1/2 015 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--AGING OF REPEATEDLY REWORKED POLYPROPYLENE -U-

AUTHOR-(05)-SHISHOVA, I.S., UTYUGOVA, M.F., YUZHIN, V.M., MATVEYEVA, YE.N., SEMENTSOV, A.D.

COUNTRY OF INFO--USSR

SOURCE--PLAST. MASSY 1970, (3), 39-40

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--POLYPROPYLENE, PLASTIC INJECTION MOLDING, CHEMICAL STABILIZER, PHENYLENE, DIAMINE, ORGANIC SULFUR COMPOUND, PROPIONATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1377 STEP NO--UR/0191/70/000/003/0039/0040

CIRC ACCESSION NO--AP0128777

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0128777

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PHYDICOCHEM. CHANGES CCCURING IN POLYPROPYLENE (I) DURING REPEATED INJECTION MOLDING AND THE EFFECTIVENESS OF STABILIZERS WERE INVESTIGATED. REPEATED INJECTION MOLDING AFFECTED CNLY THE MELT INDEX, BUT NOT THE MECH. PROPERTIES OF I. THE MOST EFFECTIVE STABILIZER SYSTEM WAS TOPANOL SA WITH DILAURYL THICDIPRCPICNATE, WHEREAS MOLDED I ARTICLES WERE BEST STABILIZED WITH N, N', CI, BETA, NAPHTHYL, P, PHENYLENEDIAMINE.

UNCLASSIFIED

USSR

UDC 538.27

KORNEV, Yu. V. and SEMENTSOV, D., Moscow Higher Technical School imeni N. E. Bauman

"FMR in Two-Layer Films With Perpendicular Magnetization"

Tomsk, Izvestiya VUZ, Fizika, No 5, 71, pp 130-132

Abstract: The high-frequency properties of multi-layer and single-layer magnetic films differ considerably, the main reason being the interaction between magnetic films. This article examines the problem of the resonance behavior of two-layer films magnetized perpendicular to their own surface. Since the magnetic films are assumed to be conducting, this results in a damping of the UHF field at the depth of the skin layer and thus to a heterogeneous distribution of the magnetization throughout the films. This fact, coupled with the interaction between the magnetic films, results in a shift of the resonance frequencies of each film when they are combined into a two-layer system. Taking these facts into consideration, the authors give a brief discussion of this problem using a number of detailed equations and arrive at a satisfactory numerical solution. The article contains a bibliography of five titles.

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USSR

UDC 621.52:539.23:621.317.343.2(088.8)

SEMENTSOV, V.I., PROZOROVSKIY, V.YE. [Taganrog. Radio Engineering Institute]

"Device For Measurement Of Electrical Conductivity Of Thin Films"

USSR Author's Certificate No 322729, filed 5 May 70, published 9 Feb 72 (from RZh:Elektronika i yeye primeneniye, No 7, July 1972, Abstract No 7A89P)

Translation: The geometry of the transducer [datchik] is selected so that the voltage at the terminals of the voltmeter is equal to zero if the measurable conductivity is equal to a specific magnitude selected beforehand. With a change of the conductivity, the voltmeter registers a voltage which provides a measure of the measurable conductivity. The proposed device is of simple construction. Supplementary outputs from the vacuum chamber are not required for its operation because the transducer is made in the form of two inductively connected circuits [kontur] connected to a generator and voltmeter, respectively, and located outside the vacuum chamber and connected with a third loop placed in the vacuum chamber with the film under inspection. A.F.

1/1

USSR UDC: 621.396.69

SEMENTSOV, V. I., GOLOVCHENKO, V. B.

"Calculation of Partial Capacitances in Multilayered Thin-Film and Printed Circuits"

Moscow, Radiotekhnika i Elektronika, Vol 17, No 1, Jan 72, pp 138-144

Abstract: An approximate method is given for calculating the potential coefficients and partial capacitances of conductors in multilayered microcircuits and micromodules. The method is illustrated in detail by the example of a five-layered microcircuit. Two figures, bibliography of seven titles.

1/1

USSR

UDC: 621.396.6-181.5

SEMENTSOV, V. I.

"On the Problem of Optimum Synthesis of Thin-Film Inductive Microelements With Ferrite Cores With Predetermined Accuracy"

Elektron. tekhnika. Nauchno-tekhn. sb. Ferrit. tekhn. (Electronic Technology. Scientific and Technical Collection. Ferrite Technology), 1970, vyp. 1 (23), pp 124-127 (from Elektronika-Radiotekhnika, No 12, Dec 70, Abstract No 12V253)

Translation: The author discusses application of the method of boundary tests to solution of the problem of synthesizing thin-film inductive microelements with predetermined inductance precision and with predetermined criteria for design optimality. An explanatory numerical example is given. Resumé.

1/1

USSR

UDC 621.371.332

SEMENOVA, V. I.

"Reflection and Absorption of Electromagnetic Waves by a Plasma Formed by Moving Ionization Sources"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. Sekts. (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses; Section 5--collection of works) "Nauka," 1972, pp 34-38 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A387)

Translation: The problem is considered of reflection and absorption of multichromatic plane waves incident on an ionization front with interference in the formed plasma taken into account. Bibliography of four. A. K.

1/1

1/2 CC9 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--DENSITY AND EQUIVALENT VOLUMES OF MELTS OF A TERNARY SYSTEM OF SODIUM, POTASSIUM, AND CALCIUM CHLORIDES -U-

AUTHOR-(02)-SEMENTSOVA, D.V., BUKHALOVA, G.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 806-8

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MULTICOMPONENT CHEMICAL SYSTEM, SODIUM, POTASSIUM, CALCIUM, CHLORIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1720 STEP NO--UR/0078/70/015/003/0806/0808

CIRC ACCESSION NO--AP0115549

UNCLASSIFIED

2/2 OCS UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0115549
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EQUIV. VOLS. AND D. OF THE FUSED NA, K, CA MAGNITUDE OF CL SYSTEM WERE DETD. AT 800DEGREES AND THE DATA ARE TABULATED, ISOD. CURVES AND EQUIV. VOLS. CURVES OF THE SYSTEM ARE CONSTRUCTED. FACILITY: ROSTOV. INZH.-STROIT. INST., ROSTOV, USSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--THERMODYNAMIC RELATIONS IN THE MUTUAL QUATERNARY POTASSIUM, CALCIUM, BARIUM MAGNITUDE OF FLUORIDE, CHLORIDE SYSTEM -U-
AUTHOR-(02)-BUKHALOVA, I.A., SEMENTSOVA, D.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 809-13

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--POTASSIUM, CALCIUM, BARIUM, FLUORIDE, CHLORIDE, MULTICOMPONENT CHEMICAL MIXTURE, ENTHALPY, HEAT CAPACITY, ENTROPY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1994/1719 STEP NO--UR/0078/70/015/003/0809/0813

CIRC ACCESSION NO--AP0115548

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0115548

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CHANGE OF THERMODYNAMIC FUNCTIONS, DELTAG, DELTAH, DELTAS, AND C SUBP AT 298-1200DEGREES WERE DETD. FOR 8 REACTIONS WHICH TAKE PLACE IN THE MUTUAL QUATERNARY SYSTEM K, CA, BA MAGNITUDE OF F, CL. THREE CROSS SECTIONS (12.5, 25, AND 50PERCENT FLUORIDES) OF THE TERNARY SYSTEM WERE DETD. AND THEIR PROJECTIONS ARE CONSTRUCTED. FACILITY: ROSTOV. INZH.-STROIT. INST., ROSTOV, USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--INTERACTION IN THE SILVER, THALLIUM AND TELLURIUM SYSTEM STUDIED FROM THE THALLIUM TELLURIDE AND SILVER TELLURIDE SECTION -U-
AUTHOR-(04)-KOVALEVA, I.S., KRANCHEVICH, K.S., SEMENTSOVA, R.S., NIKOLSKAYA, G.F.
COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(2), 247-51

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHASE DIAGRAM, SILVER, THALLIUM, TELLURIUM, HARDNESS, X RAY ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0558 STEP NO--UR/0363/70/006/002/0247/0251

CIRC ACCESSION NO--AP0105543
UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--18SEP70
CIRC ACCESSION NO--AP0105543
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PHASE DIAGRAM OF THE TL SUB2 TE SUB3 MINUS AG SUB2 TE SECTION WAS PLOTTED FROM THE RESULTS OF DTA, MICROSTRUCTURAL, X RAY PHASE, AND MICROHARDNESS DATA OF COMPNS. OF THE TERNARY AG-TL-TE SYSTEM. THE SECTION STUDIED IS NOT QUASIBINARY.

UNCLASSIFIED

USSR

UDC: 513.88:517.948

GOKHBERG, I. Ts., SEMENTSUL, A. A.

"Töpliz Matrices Consisting of the Fourier Coefficients of Functions With Discontinuities of the Near Periodic Type"

V sb. Mat. issledovaniya (Mathematical Research--collection of works), T. 5, vyp. 4, Kishinev, Academy of Sciences of the Moldavian SSR, 1970, pp 63-83 (from RZh-Matematika, No 5, May 71, Abstract No 5B768)

Translation: An isolated point of a discontinuity ζ_0 ($|\zeta_0|=1$) of the function $f(\zeta)$ ($|\zeta|=1$) is called a point of discontinuity of the nearly periodic type of the function $f(\zeta)$ if there exists a uniform, nearly periodic function $p(\lambda)$ ($-\infty<\lambda<\infty$), such that

$$\lim_{\zeta\to\zeta_0}\left(f(\zeta)-p\left(-i\frac{\zeta+\zeta_0}{\zeta-\zeta_0}\right)\right)=0.$$

If the condition $\inf|f(\zeta)|>0$ is satisfied in the neighborhood of the point ζ_0, then the number $\mathrm{ind}(f,\zeta_0)$ is defined by the equality $\mathrm{ind}(f,\zeta_0)=\lim_{\lambda\to\infty}\frac{1}{2\pi}[\arg p(\lambda)]_{\lambda=-\lambda}^{\lambda=\lambda}$.

1/2

USSR

GOKHBERG, I. Ts., SEMENTSUL, A. A., Mat. issledovaniya, T. 5, vyp. 4, Kishinev, Academy of Sciences of the Moldavian SSR, 1970, pp 63-83

Let the function $a(\zeta)$ $(|\zeta|=1)$ be continuous everywhere on the unit circle with the exception of the points $\zeta_1, \zeta_2, \ldots, \zeta_n$, where there are discontinuities of the nearly periodic type. In the space l_2 and in certain other spaces, the authors investigate the operator T_a defined by the Töpliz matrix $\|a_{j-k}\|_{j,k=0}^{\infty}$, where $a_j (j = 0, \pm 1, \ldots)$ are Fourier coefficients of the functions $a(\zeta)$. It is proved, in particular, that such an operator T_a is a Φ_+ or Φ_- operator if and only if the following conditions are satisfied: 1) $\inf_{|\zeta|=1} |a(\zeta)| > 0$; 2) the numbers $\operatorname{ind}(a, \zeta_j)$ $(j=1,2,\ldots,n)$ are simultaneously either all non-negative or all non-positive. Authors' abstract.

2/2

1/2 010 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--TERNARY SYSTEMS OF SODIUM META AND PYROPHOSPHATES WITH TUNGSTEN AND MOLYBDENUM OXIDES -U-

AUTHOR-(02)-BERGMAN, A.G., SEMENYAKOVA, L.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(5), 1386-9

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHASE DIAGRAM, MOLYBDENUM OXIDE, TUNGSTEN COMPOUND, SODIUM PHOSPHATE, SODIUM OXIDE, PHOSPHOROUS OXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1413 STEP NO--UR/0078/70/015/005/1386/1389

CIRC ACCESSION NO--AP0135087

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--13NOV70

2/2 010

CIRC ACCESSION NO--AP0135087

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PARTIAL TRIGONAL PHASE DIAGRAMS OF X-AO SUB3 -MOO SUB3 SYSTEMS, WHERE X IS NAPO SUB3 OR NA SUB4 P SUB2 O SUB7 ARE CONSTRUCTED. THE SYSTEMS FORM NA SUB2 O.P SUB2 O SUB5 .2WO SUB3 AND NA SUB2 O.P SUB2 O SUB5 .2MOO SUB3, WHICH WERE SHOWN TO BE INDIVIDUAL COMPDS., BY X RAY ANAL. FACILITY: ROSTOV.-NA-DONU INZH.-STROIT. INST., ROSTOV-ON-DON, USSR.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--PHOTOCOLORIMETRIC DETERMINATION OF MENTHOL -U-

AUTHOR-(02)-SEMENYCHEVA, A.A., ZBARSKIY, V.B.

COUNTRY OF INFO--USSR

SOURCE--FARMATSIYA (MOSCOW) 1970, 19(1), 46-9

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CYCLIC ALCOHOL, CHEMICAL ANALYSIS, PHOTOMETRY/(U)FEK56 PHOTOMETER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/0674 STEP NO--UR/0466/70/019/001/0046/0049

CIRC ACCESSION NO--AP0117899

UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0117899

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DETN. OF MENTHOL (I) IS BASED ON ITS COLOR REACTION (LAMBDA SUBMAX. 597 NM) WITH VANILIN (II) IN H SUB2 SO SUB4 SOLN. TO DET. I IN PURE PREPNS. DISSOLVE 0.15 G IN 100 ML ETOH, AND DIL. A 5 ML ALIQUOT TO 50 ML WITH ETOH. TO 2 ML OF FRESH PREPD. 1PERCENT II IN H SUB2 SO SUB4, ADD 0.4 ML OF THE SAMPLE SOLN., MIX AND ADD 2 ML WATER. MEASURE THE ABSORBANCE AFTER 15-20 MIN IN A 0.5 CM CUVETTE ON THE PHOTOMETER FEK 56 (FILTER NO. 8) AGAINST A BLANK SOLN. CALC. THE RESULTS BY USING E PRIME1 PERCENT SUB1CM. EQUALS 555.3, ESTD. ON THE ABOVE PHOTOMETER. BEERS LAW HOLDS FOR 0.06-0.23 MG I-ML. THE COLOR IS STABLE FOR 1.5-2 HR. FACILITY: TSENT. APTECH. NAUCH.-ISSLED. INST., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 537.311.33:514.28

KONOZENKO, I.D., VINETSKIY, V.L., VARENTSOV, M.D., YERITSYAN, G.N., SEMENYUK, A.K., STARCHIK, M.I., KHIVRICH, V.I.

"Effect Of Certain Factors On The Processes Of Formation Of Radiation Defects In Silicon And Germanium During Gamma Irradiation"

V sb. Radiatsion. fiz. nemet. kristallov (Radiation Physics Of Non-Metallic Crystals--Collection Of Works), Minsk, "Nauka i tekhn.," 1970, pp 22-44 (from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2B26)

Translation: The kinetics are studied of the buildup of radiation defects in Si and n- and p-type Ge during Gamma irradiation. The effect of the charge state and temperature on the formation of recombination centers is considered as well as the effect of dosage, the intensity of Gamma irradiation, concentration, preliminary irradiation and other factors on the formation of radiation defects. 32 ref. V.B.

1/1

USSR

UDC 621.317.7.087

BOBKOV, Yu. N., and SEMENYuK, A. L.

"Automatic, Self-Recording Measuring Instruments with Digital Output"

Otbor i peredacha inform. Resp. mezhved. sv. (Selection and Transmission of Information. Republic Interdepartmental Collection) No 32, 1972, pp 80-85 (from RZh-Avtomatika Telemechanika i Vychislitel'naya Tekhnika No 3, Mar 73, Abstract No 3 A376 by the authors)

Translation: The article examines the principles of action, circuits, and achievements of automatic, self-recording measuring instruments using stepping motors, in which the information about the measured value is represented in both analog and digital form. The results of experimental studies of an automatic, unbalanced bridge with stepping motors of various types are given. Three illustrations, eight bibliographic citations.

1/1

USSR

DYSSA, O. F., EPISHIN, V. V., POKROVSKIY, B. G., SEMENYUK, A. L.

"Use of the Method of Maximum Likelihood for Processing of Measurement Results"

Otbor i Peredacha Inform. Resp. Mezhved. sb. [Collection and Processing of Information, Republic Interdepartmental Collection], No 29, 1971, pp 33-37, (Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1972, Abstract No 3 V127 by the author's).

Translation: It is demonstrated that with a known form of distribution of the quantity measured, the optimal estimate of unknown parameters is provided by the method of maximum likelihood, using which the precise estimates of unknown parameters are determined and the position of the true and approximate regression curves are represented graphically within fixed confidence areas.

1/1

1/2 038 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--HIGH TEMPERATURE CORROSION OF TUNGSTEN, MOLYBDENUM, AND NIOBIUM IN HYDROGEN FLUORIDE -U-

AUTHOR-(02)-ZOTIKOV, V.S., SEMENYUK, E.YA.

COUNTRY OF INFO--USSR

SOURCE--ZASHCH. METAL. 1970, 6(2), 218-20

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--HIGH TEMPERATURE EFFECT, CORROSION RATE, TUNGSTEN, MOLYBDENUM, NIOBIUM, HYDROGEN FLUORIDE, NICKEL, PROTECTIVE COATING, COPPER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1805 STEP NO--UR/0365/70/006/002/0218/0220

CIRC ACCESSION NO--AP0112791

UNCLASSIFIED

2/2 038 UNCLASSIFIED PROCESSING DATE--16OCT70
CIRC ACCESSION NO--AP0112791
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EXPOSURE OF NI TO 40PERCENT HF SOLN. VAPOR, AT TEMPS. OF 300, 500, AND 600DEGREES CAUSED LOSSES OF 0.04, 0.91, AND 0.01 G-M PRIME2 HR. OF THE OTHER METALS, NB WAS MOST SERIOUSLY ATTACKED; AT 300-600DEGREES THE LOSSES WERE 16.4, 48.8, 127.8, AND 120 G-M PRIME2 HR, CAUSING VOLATILIZATION OF NBF SUB5. THE COMPLETE DESTRUCTION, STARTING AT 700DEGREES, WAS ATTRIBUTED TO INTERCRYST. CORROSION AND ALSO TO THE DISRUPTION CAUSED BY RELEASED H. THROUGH THE RANGE OF 300-600DEGREES, W GAVE LOSSES OF 0.007, 0.020, 0.037, AND 0.049; THROUGH 300-700DEGREES, MO GAVE LOSSES OF 0.004, 0.013, 0.017, 0.027, AND 0.170 G-M PRIME2 HR. THE USE OF W OR MO ELECTROLYTIC COATINGS FOR CORROSION PROTECTION IS DISCUSSED. SIMPLER CR LAYERS ON CU LOST 0.72 G-M PRIME2 HR AT 500DEGREES. FACILITY: GOS. INST. PRIKL. KHIM., LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 620.193.5

ZOTIKOV, V. S., and SEMENYUK, E. YA., State Institute of Applied Chemistry

"High-Temperature Corrosion of Tungsten, Molybdenum, and Niobium in Hydrogen Fluoride"

Moscow, Zashchita Metallov, Vol 6, No 2, Mar-Apr 70, pp 218-220

Abstract: In the process of producing and processing fluoride compounds, equipment is frequently exposed to hydrogen fluoride at high temperatures. The maximum temperature limit of nickel applicability in HF is 600--650°C. There is a lack of information on the corrosion resistance (under these conditions) for high-melting metals: tungsten, molybdenum, and niobium, except for data on their stability in liquid hydrogen fluoride. This study concerns the corrosion rate of these metals as a function of temperature. Data on the corrosion of niobium, tungsten, molybdenum, and nickel are given in a table in the original article. In gaseous HF at 300--600°C niobium is chemically unstable. It becomes brittle and readily fails even under a slight effort. This is attributed to intergranular corrosion as well as to hydrogen formation. Unlike niobium, tungsten and molybdenum begin to react with HF at an appreciable rate only above 600°C. The metals form a protective film consisting of nonvolatile fluorides of lower valence. Within 300--600°C, molybdenum and tungsten are somewhat

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ZOTIKOV, V. S. and SEMENYUK, E. YA., Zashchita Metallov, Vol 6, No 2, Mar-Apr 70, pp 218-220

superior to nickel. Tests on copper chromium specimens with molybdenum and tungsten electrolytic coatings (25--30 microns) have shown that they corrode in HF at about the same rate as compact molybdenum and tungsten specimens. At 600 and 700°C the coatings crack and sometimes peel off. The positive results of the corrosion resistance of these coatings at 500°C indicate their potential application for protecting equipment designed for use in a hydrogen fluoride medium.

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USSR

UDC 547.26.418

SEMENYUK, I. I., VOLKOVA, N. V., and YASNIKOV, A. A., Institute of Organic Chemistry, Academy of Sciences, Ukrainian SSR

"Products of Acetol Phosphorylation by Phosphorus Oxychloride in Quinoline"

Kiev, Ukrainskiy Kimicheskiy Zhurnal, Vol XXXVII, No 5, 1971, pp 451-453

Abstract: The experimental procedure and results of acetol phosphorylation by phosphorus oxychloride in quinoline are described. The properties of the pyrophosphates of the dimer form of acetol are described, and the phosphorylation products are determined to be 2,5-dimethyl-2,5-dixoxydioxane-1,4 mono and dipyrophosphates and acetolphosphate. It was discovered that the phosphorylated products decompose with splitting of the inorganic pyrophosphate when held with sulfoacid cation-exchange or ion-exchange resins. The inorganic pyrophosphate formed is identified by the paper chromatography method. The absence of a carbonyl group in the compound and the formation of the hydrazine of the corresponding methylglyoxal osazones leads to the identification of the product.

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USSR

UDC 539.3

SEMENYUK, N. P., (Kiev), Institute of Mechanics, Ukrainian SSR

"The Stability of a Three-Layer Orthtropic Cylindrical Shell, During Nonuniform External Pressure"

Kiev, Prikladnaya Mekhanika, Vol 7, No 9, Sep 71, pp 37-44

Abstract: An investigation is made of ... the stability of a three-layer sloping orthotropic cylindrical shell with some forms of nonuniform equilibrium load around the circumference. For the external layers the Kirchhoff-Love hypothesis is assumed to be valid, while a transverse shift in the filler is assumed; the shift stresses are considered to be uniformly distributed with respect to thickness. The transverse compressibility of the central layer is disregarded. The Poisson coefficients ν_1 and ν_2 of all three layers are identical. The problem is solved in a linear formulation, the subcritical state is momentless. Determination of the critical-load parameter is reduced to finding the smallest root of the transcendental equation, represented in the form of an infinite continued fraction. The results of the calculation are presented, which clarify the influence of the nonuniformity of the loading upon the value of the critical load for three cases of mechanical characteristics of the component layers. There is shown the influence of loading nonuniformity upon the shape of loss stability. Six figures, three references.

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USSR

UDC 621.382.5

SEMENYUK, V. A., TOMASHEVICH, N. M., SHALENYY, E. G.

"Use of Semiconductor Materials in Thermopiles With New System of Commutation"

V sb. Nizkotemperaturn. termoelektrich. materialy (Low-Temperature Thermoelectric Materials--Collection of Works), Kishinev, 1970, pp 168-172 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5B188)

Translation: Problems connected with reduction of the cost of producing semiconductor thermopiles are considered. An equation is found for the minimum height of the thermoelement, taking account of the waste of semiconductor materials during cutting and polishing. A new method is proposed for commutation of the thermopile without soldering, by means of a clip with a preliminary galvanic covering of the surfaces being joined. 1 ill. 3 ref. Author's Abstract.

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1/2 027 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--OPTIMIZATION OF DESIGN OF THERMOELECTRIC COOLING BATTERIES -U-

AUTHOR--MARTYNOVSKIY, V.S., SEMENYUK, V.A., TOMASHEVICH, M.N.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, KHOLODIL'NAYA TEKHNIKA, NO 2, 1970, PP 31-35

DATE PUBLISHED--------70

SUBJECT AREAS--ENERGY CONVERSION (NON-PROPULSIVE), PHYSICS

TOPIC TAGS--THERMOELECTRIC COOLING, THERMO BATTERY, HEAT TRANSFER THEORY, CONVECTIVE HEAT TRANSFER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/1408 STEP NO--UR/0066/70/000/002/0031/0035

CIRC ACCESSION NO--AP0104722

UNCLASSIFIED

2/2 027 UNCLASSIFIED

CIRC ACCESSION NO--AP0104722 PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT IS SHOWN THAT ONE OF THE POSSIBILITIES FOR INTENSIFICATION OF HEAT EXCHANGE IS A DISPERSAL OF THERMOELEMENTS WHICH CONSIDERABLY INCREASES THE AREA OF THE RIBBING BASE AND DECREASES HARMFUL TEMPERATURE DROPS BETWEEN JUNCTIONS AND MEDIA. DESIGN RATIOS ARE GIVEN FOR DENSITIES OF HEAT CURRENTS ON JUNCTIONS OF THERMOBATTERIES. SINCE THE OPTIMUM DEGREE OF DISPERSAL OF THERMOELEMENTS CANNOT BE DETERMINED THEORECTICALLY IN A GENERAL FORM, A METHOD OF EXPERIMENTAL DETERMINATION OF THE OPTIMUM DENSITY OF PACKING FOR THE CASE OF NATURAL CONVECTION WAS USED. AN OPTIMUM DESIGN OF THE MODULE FOR A REFRIGERATOR WITH CONVECTIVE COOLING OF HOT JUNCTIONS WAS FOUND. ONE TABLE. THREE ILLUSTRATIONS. SEVEN REFERENCES.

UNCLASSIFIED

USSR

UDC 533.915

GABOVICH, M. D., STARCHIK, P. D., and SEMENYUK, V. F., Institute of Physics of the Academy of Sciences UkrSSR, Kiev

"Propagation of a Plasma Flux by a Magnetic Field up to 100 koe"

Kiev, Ukrainskiy Fizicheskiy Zhurnal, Vol 17, No 3, Mar 72, pp 353-355

Abstract: The broadening over a length of 120 mm of helium and argon plasma fluxes 1 mm in diameter and $n \simeq 5 \times 10^{12} cm^{-3}$ was experimentally investigated. The plasma flowed out from a discharge spacing between the glowing cathode and the anode through an opening of 1 mm in diameter in the latter into the vacuum region along a magnetic field up to 100 koe. Disturbances resulting from the propagation velocity of ion flow caused the ion plasma component to propagate in an 80-koe magnetic field with the velocity of $v_+ \simeq 10^6$ cm/sec. by discharge in helium and with $v_+ \simeq 5 \times 10^5$ cm/sec. by discharge in argon. In this way, a $3 \times 10^{12} cm^{-3}$-helium-plasma concentration and an $8 \times 10^{12} cm^{-3}$-argon-plasma concentration were determined. In the $H \gg 40$-koe magnetic field, the outgoing flux of ions was found to concentrate in a ~ 1 deg. cone apex angle. In magnetic fields of maximum intensity, the plasma propagates practically without broadening. The results of experiments demonstrated the possibility of the effective plasma propagation by a magnetic field magnetizing the ions. Three illustr., five biblio. refs.

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Semenyuk, Ya. V.

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Soviet Inventions Illustrated, Section I Chemical, Derwent, 3/70

237110 TEST REACTOR FOR CATALYSIS AND KINETICS of high-boiling processes, has a cock 6 at the end of its inner tube 5 to form the glass joint member, tubes coaxial to this cock 4,5, used to connect to the inside of the cylindrical body 1 containing the catalyst chamber 2. The bottom end of the chamber forms a coil 14 with a layer of glass filament 15 on it so as to pack it into the cylinder 16. Cylinders 17,18 contain asbestos graphite packings 19,20 to seal off the inner cavity. Two independent and insulated flows are maintained during the period required for establishing test conditions; a flow of reaction mixture entering through the connection 21 to the body 1 and on through the orifice 7 in tube 4 to leave through 22; and a flow of inert gas

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entering via the cock 6 into the catalyst chamber 2 and so along channel 12 in the wall of the cone 11, the inner tube 23 and out through 24. Once conditions are right, the gas is stopped off. The catalyst chamber is coupled to the reagent flow by turning the cock plug. The catalysis schedule is now started up. By alternating reagent flow and inert gas supply a pulsating system can be provided. 15.9.67. as 1185674/23-26. SHAPRINSKAYA, T.M et al. L V. Pisarzhevskii Physical Chemistry Inst. Acad. Sciences. Ukrainian SSR. (8.7.69.) Bul.8/12.2.69. Class 12g. Int.Cl. B01j.

AUTHORS: Shaprinskaya, T. M.; Korneychuk, G. P.; Stasevich, V. P. and Semenyuk, Yu. V.

Institut Fizicheskoy Khimii imeni L. V. Pisarzhevskogo AN Ukrainskoy SSR

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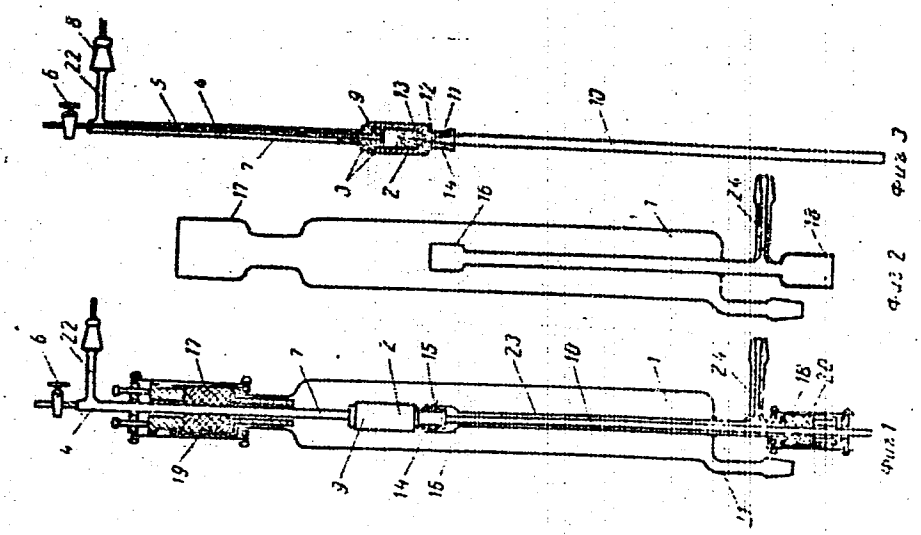

Фиг 3

Фиг 2

Фиг 1

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UDC: 621.694.2

BEZNOGIKH, YU. D., ZINOV'YEV, L. P., KADYROV, R. B., KARYAGIN, YU. K., PLYASHKEVICH, N. N., POPOV, V. A., SEMENYUSHKIN, I. N. and STEPANIUK, V. L.

"Injector Debuncher of the OIYAI Synchrophasotron With Energy Modulation of the Accelerated Beam"

Moscow, Pribory i Tekhnika Eksperimenta, Zhurnal Akademii Nauk SSSR, No 1, Jan/Feb 72, pp 37-38

Abstract: The particle intensity in the OIYAI synchrophasotron can be increased by 75% by reducing the energy scattering in the outlet beam and by modulating the energy of the injected beam. Both functions can be performed by a single high-frequency debuncher resonator located at a certain distance from the linear accelerator.

The debuncher resonator is 1/4 of the wave length of the round coaxial line. The tuning is achieved by deflecting the end walls and by a secondary power input. The diagram and the description of this device are presented. Some experimental results obtained with and without the debuncher are also given.

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